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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/727,663

12/05/2003

Hiroyuki Shibaki

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10/05/2007

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.

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EXAMINER

KAU, STEVEN Y

ART UNIT

PAPER NUMBER

2625

NOTIFICATION DATE

DELIVERY MODE

10/05/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/727,663

Applicant(s)

SHIBAKI ET AL.

Examiner

Steven Kau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) 1-19, 28-51 and 60-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-27 and 52-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :8/24/07,7/30/07, 5/1/06, 12/5/03.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group II (Claims 20-27 & 52-59) in the reply filed on July 16, 2007 is acknowledged. The traversal is on the ground(s) that claims 1-65 should be included because "clearly, provisionally elected Claims 20-27 & 52-59 do not recite limitations that are "mutually exclusive" relative to claims 1-19, 28-33 or 34-46 as all of these claims recite the limitations noted as characterizing the provisionally elected species in terms of reciting "an image processing apparatus comprising an input unit" and "Accordingly, there will be no serious search and examination burden present here as to examining all of pending Claims 1-65". This is not found persuasive.

With respect to Claims 1 & 20, recites "An image processing apparatus comprising: an input unit that inputs color image signals; a first segmentation unit that determines attributes of a target pixel for the color image signals; a color component control unit that conducts a predetermined processing to color components of the target pixel based on the attributes of the target pixels determined to thereby generate processed color image signals; a second segmentation unit that determines attributes of the target pixel for the processed color image signals; and an image processing unit that conducts an image processing to the processed color image signals based on the attributes of the target pixel determined by the second segmentation unit", and "An image processing apparatus comprising: an input unit that inputs color image signals; and a magnification unit that magnifies the color image signals input in such a manner that predetermined color information included in the color image signals before

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magnifying the color image signals are retained even after magnifying the color image signals", respectively.

Both claims 1 and 2 recite a necessary utility "An image processing apparatus comprising: an input unit" to meet the "concrete, useful and tangible" result. Without the input unit, "a first segmentation unit", "a color component control unit", "a second segmentation unit", and "an image processing unit" will become meaningless in claim 1. Likewise, without "An image processing apparatus comprising: an input unit" in claim 20, "a magnification unit" will also become meaningless.

However, "a first segmentation unit", "a color component control unit", "a second segmentation unit", and "an image processing unit" in claim 1 are clearly distinctive and "mutually exclusive" to "a magnification unit" in claim 20. This type of claim limitation is very similar to automobile industry inventions. For instance, Claim A claims for "An operative vehicle comprising: a fuel injection unit; an engine having four cylinders capable for diesel fuel combustion ...", and Claim B claims for "An operative vehicle comprising: an injection unit injecting diesel fuel; a transmission having multiple gears capable to transmit...". Both Claims A and B are some how "mutually relative" to each other because both claims have a necessary limitation to meet "concrete, tangible and useful" statutory requirements. On the other hand, an engine is not a transmission, they fall into different classes/subclasses, just like people do not bring a transmission unit to an engine shop for inspection or repair, because they are "mutually exclusive" and distinct to each other.

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Since the above mentioned components/units are "mutually exclusive" and distinctive, there will be a search and examination burden to the examiner to completely prosecute claims 1-65.

The requirement is still deemed proper and is therefore made FINAL.

Accordingly, claims 1-19, 28-33, 34-46, 47-51 and 60-65 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim.

Thus, claims 20-27 & 52-59 will be further examined in this action.

#### ***Information Disclosure Statement***

2. The information disclosure statements (IDS) submitted on December 5, 2003, May 1, 2006, July 7 30, 2007 and August 24, 2007 are acknowledged. The submission is in compliance with the provisions of 37 CFR 1.97 except for the following documents:

- 3176052 is not filed with the IDS statement submitted on December 5, 2003 – not considered.
- JP 9-27901 submitted on July 30, 2007, no English Abstract. In addition, the referred US Patent 5,726,766 does not call or related to JP 9-27901 either – not considered.
- 11-127340 submitted on August 24, 2007, No English Abstract. In addition, the referred US Patent 6,441,913 does not call or related to 11-127340 – not considered.

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- 9-186866 submitted on August 24, 2007, no English Abstract provided – not considered.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 20, 27, 52 and 59 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurita (US 5,933,257).

Regarding **claim 20**, Kurita discloses an image processing apparatus, in that he teaches that an image processing apparatus comprising: an input unit (CCD 201 of Fig. 4a) that inputs color image signals (Fig. 4a, col 6, lines 35-55); and a magnification unit (Zooming Unit 235 of Fig. 4a) that magnifies the color image signals input in such a manner that predetermined color information included in the color image signals before magnifying the color image signals are retained even after magnifying the color image signals (Fig. 4a, col 7, lines 37-43, "CMY image signals each having eight bits and inputted from the zooming unit 234 are converted into L\*a\*b\* signals and encoded in unit of 4x4 pixel blocks" and "UCR unit 212 include four reading-out system corresponding to the C,M,Y and K colors, so as to generate the C,M,Y and K data corresponding to the displacements in image forming by the four image from units 302 to 305" implies that predetermined color information is retained before and after zooming (magnification) process).

Regarding **claim 27**, Kurita discloses wherein the magnification unit conducts different two-dimensional magnification setting processings in a longitudinal direction and a lateral direction of an image, respectively Kurita teaches and suggests main-scanning and sub-scanning directions for image processing including zooming (magnification), Fig. 4b, col 8, lines 31-38).

Regarding **claim 52**, the structure elements of apparatus claim 20 perform all steps of method claim 52. Thus claim 52 is rejected under 102(b) for the same reason discussed in the rejection of claim 20.

Regarding **claim 59**, the structure elements of apparatus claim 27 perform all steps of method claim 59. Thus claim 59 is rejected under 102(b) for the same reason discussed in the rejection of claim 27.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 21-23 and 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurita (US 5,933,257) in view of Kihara (US 5,444,492).



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Regarding **claim 21**, Kurita differs from claim 21, in that he does not expressly teach wherein the predetermined color information includes a ratio of a plurality of color component signals.

Kihara discloses wherein the predetermined color information (e.g. an aspect ratio of digital luminance signal; digital red color difference signal, and digital blue color difference signal, etc. stored in the FIFO memory elements 203 through 207 of Fig 12) includes a ratio of a plurality of color component signals (col 9, lines 61-68 & col 10, lines 1-23).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Kurita to include the predetermined color information includes a ratio of a plurality of color component signals taught by Kihara. The motivation to include a ratio of a plurality of color component signals in the predetermined color information is that due to signal processing such as multiplexing, amplifying, and digitizing, etc. if a ratio of color component signal is not included in a predetermined color information, the output video image will be distorted and/or moiré artifact will be introduced, and therefore video image quality will become unstable (col 1, lines 19-37 & col 6, lines 54-68 & col 7, lines 1-2).

Regarding **claim 22**, Kurita discloses wherein the magnification unit includes a first magnification unit that magnifies at least one component signal of the color image signals represented by the plurality of color component signals (Zooming Unit B 234 of Fig. 4b, col 7, lines 6-27); and a second magnification unit that magnifies at least one component signal, other than that has been magnified by the first magnification unit, of

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the color image signals while referring to the color image signals that is magnified and that is not magnified by the first magnification unit (Zooming Unit A 211 of Fig. 4b, col 8, lines 3-23).

Regarding **claim 23**, Kurita differs from claim 23, in that he does not expressly teach wherein the predetermined color information includes at least color difference information.

Kihara discloses wherein the predetermined color information includes at least color difference information (digital red color difference signal, and digital blue color difference signal, etc. col 9, lines 48-60).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Kurita to include the predetermined color information includes at least color difference information taught by Kihara. The motivation to include at least color difference information in the predetermined color information is that due to signal processing such as multiplexing, amplifying, and digitizing, etc. if color difference information is not included in a predetermined color information, the output video image will be distorted and/or moiré artifact will be introduced, and therefore video image quality will become unstable.

Regarding **claim 53**, the structure elements of apparatus claim 21 perform all steps of method claim 53. Thus claim 53 is rejected under 103(a) for the same reason discussed in the rejection of claim 21.

Regarding **claim 54**, the structure elements of apparatus claim 22 perform all steps of method claim 54. Thus claim 54 is rejected under 103(a) for the same reason discussed in the rejection of claim 22.

Regarding **claim 55**, the structure elements of apparatus claim 23 perform all steps of method claim 55. Thus claim 55 is rejected under 103(a) for the same reason discussed in the rejection of claim 23.

6. Claims 24 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurita (US 5,933,257) in view of Kihara (US 5,444,492) as applied to claim 23 and 55 above, and further in view of Hatanaka et al (Hatanaka) (US 5,041,905).

Regarding **claim 24**, Kurita discloses wherein the color image signals includes a luminance signal (Luminance Calculation CKT 201 of Fig. 25, col 10, lines 51-55), and the magnification unit includes a luminance signal magnification unit that magnifies the luminance signal (CMY color signal converted into Lab color space and dimension L is for luminance, Zooming Unit B 234 of Fig. 4b, col 7, lines 37-43).

Kurita differs from claim 24, in that he does not expressly teach wherein the color image signal includes a color difference signal and a color difference signal magnification unit magnifies the color difference signals in a manner that is different from magnification of the luminance signal magnification unit by the luminance signal.

Hatanaka discloses wherein the color image signal includes a color difference signal (Process Circuit 2 of Fig. 1 separates a luminance signal and chrominance signal, which comprising color difference signal, col 2, lines 52-68 & col 3, lines 1-9) and a color difference signal magnification unit magnifies the color difference signals in a

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manner that is different from magnification of the luminance signal magnification unit by the luminance signal (col 5, lines 38-58 & col 7, lines 30-38).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Kurita to include the color image signal includes a color difference signal and a color difference signal magnification unit magnifies the color difference signals in a manner that is different from magnification of the luminance signal magnification unit by the luminance signal taught by Hatanaka. The motivation for doing so is to avoid overlapping the luminance signal in the magnified area that due to signal processing such as multiplexing, amplifying, and digitizing, etc. if color difference is magnified in the same manner as the luminance signal, the output video image will be distorted and/or moiré artifact will be introduced, and therefore video image quality will become unstable (col 5, lines 38-46).

Regarding **claim 56**, the structure elements of apparatus claim 24 perform all steps of method claim 56. Thus claim 56 is rejected under 103(a) for the same reason discussed in the rejection of claim 24.

7. Claims 25 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurita (US 5,933,257) in view of Kihara (US 5,444,492) and further in view of Hatanaka et al (Hatanaka) (US 5,041,905) as applied to claims 24 and 56, and further in view of Watanabe (US 2003/0151782).

Regarding **claim 25**, Kurita differs from claim 25, in that he does not expressly teach wherein the color difference signal magnification unit performs magnification in

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such a manner that a reference pixel area becomes narrower as compared with a reference pixel area that is obtained when the luminance signal magnification unit performs the magnification.

Watanabe discloses wherein the color difference signal magnification unit performs magnification in such a manner that a reference pixel area becomes narrower as compared with a reference pixel area that is obtained when the luminance signal magnification unit performs the magnification (Watanabe teaches and suggests that the number of pixels associated with the color difference component is made less than the number of pixels associated with the luminance component, Para. 0147).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Kurita to include the color difference signal magnification unit performs magnification in such a manner that a reference pixel area becomes narrower as compared with a reference pixel area that is obtained when the luminance signal magnification unit performs the magnification taught by Watanabe. The motivation for doing so is because color difference components are not so greatly for image quality damaging as the Y (luminance) signal component. Therefore, if reference pixel area for color difference components is not narrower than the reference pixel area for luminance signal component, then the output video image will be distorted and/or moiré artifact will be introduced, and therefore video image quality will become unstable (Para. 0147).

Regarding **claim 57**, the structure elements of apparatus claim 25 perform all steps of method claim 57. Thus claim 57 is rejected under 103(a) for the same reason discussed in the rejection of claim 25.

8. Claims 26 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurita (US 5,933,257) in view of Kihara (US 5,444,492) and further in view of Hatanaka et al (Hatanaka) (US 5,041,905) as applied to claims 24 and 56, and further in view of Suino et al (Suino) (US 2004/0013310).

Regarding **claim 26**, Kurita differs from claim 26, in that he does not expressly teach wherein the luminance signal magnification unit and the color difference signal magnification unit magnify corresponding signals by giving weight parameters to peripheral pixels, and the weight parameter set by the luminance signal magnification unit are different from that set by the color difference signal magnification unit.

Suino discloses wherein the luminance signal magnification unit and the color difference signal magnification unit magnify corresponding signals by giving weight parameters to peripheral pixels, and the weight parameter set by the luminance signal magnification unit are different from that set by the color difference signal magnification unit (Hanami teaches and suggests that determining the weight of the low-pass filter at the target pixel location for Y and color difference components in Fig. 57, Para. 0285).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Kurita to include the luminance signal magnification unit and the color difference signal magnification unit magnify

corresponding signals by giving weight parameters to peripheral pixels, and the weight parameter set by the luminance signal magnification unit are different from that set by the color difference signal magnification unit taught by Suino. The motivation for doing so to minimizing errors with respect to the direction of a tile boundary employed.

Therefore, if the weight parameter for color difference components is the same as luminance signal component, then the output video image will be distorted and/or moiré artifact will be introduced, and therefore video image quality will become unstable (Para. 0246).

Regarding **claim 58**, the structure elements of apparatus claim 26 perform all steps of method claim 58. Thus claim 58 is rejected under 103(a) for the same reason discussed in the rejection of claim 26.

### **Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Kau whose telephone number is 571-270-1120 and fax number is 571-270-2120. The examiner can normally be reached on M-F, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

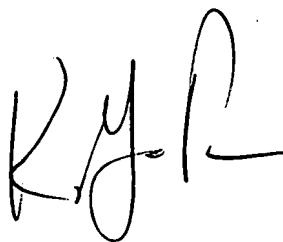


S. Kau

Patent Examiner

Division: 2625

September 26, 2007



KING Y. POON  
SUPERVISORY PATENT EXAMINER